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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,658	09/17/2003	An-Sheng Chang	3313-1029P	3802

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EXAMINER

RAHMAN, FAHMIDA

ART UNIT	PAPER NUMBER
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2116

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/663,658

Applicant(s)

CHANG, AN-SHENG

Examiner

Fahmida Rahman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

1. Claims 1-8 are pending.

### Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Georgiou et al (US Patent 6047248).

For claim 1, Georgiou et al teach the following limitations:

**A method of automatically adjusting the central processing unit (CPU) work frequency** (step 530 shows that the frequency to functional unit is varied. Fig 1 shows functional unit 116 is part of processor 100. Thus, Georgiou et al teach adjusting of CPU working frequency) **comprising the steps of:**

**starting at least one set of sensor** (119s in 116-1 to 116-K);

**setting triggering conditions for a frequency adjustment** (threshold temperature in 230)

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**monitoring the sensor in real time and detect its status values** (220 is the current temperature derived from sensor. Thus, the sensors are monitored in real time and the status is detected)

**comparing the triggering conditions with the sensor status values in real time** (240, 520);

**and adjusting the CPU work frequency according to the comparison result in real time** (lines 40-49 of column 7).

For claim 2, sensor 119 is a temperature sensor.

For claim 3, note lines 24-29 of column 9, which mention that 220 and 230 represent operating temperature and threshold temperature for the sampled unit. Thus, each unit, with corresponding sensor, comprises it's own triggering condition.

For claim 4, the threshold of Georgiou et al is a predetermined threshold. Lines 30-35 of column 7 mention that the predetermined threshold could be hardwired. Thus, it is stored in production.

For claim 6, lines 45-50 of column 7 mention that frequency is reduced for thermal

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management. The system can increase the frequency whenever needed, since that is the way the system is designed.

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Georgiou et al (US patent 6047248), as applied to claim 1 above, in view of Kling et al (US Patent 6367023).

For claim 5, Georgiou et al do not teach that the triggering conditions are set by user when power on and stored in the computer.

Kling et al teach a system where a threshold is modifiable by the user on power on. Lines 15-19 of column 5 mention that system user can modify the threshold and lines 25-30 of column 5 mention that modification is performed by changing settings of BIOS. Thus, the change is performed by user when power on, since BIOS is start up routine upon power on.

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It would have been obvious for one ordinary skill in the art at the time the invention was made to combine the teachings of Georgiou et al and Kling et al. One ordinary skill in the art would have been motivated to change the triggering conditions when power on, since that would allow a user complete control over the system. User can choose the threshold value he likes to choose.

4. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Georgiou et al (US patent 6047248).

For claim 7, Georgiou et al teach the following limitations,

**A device (Fig 1) of automatically adjusting the CPU work frequency (step 530 shows that the frequency to functional unit is varied. Fig 1 shows functional unit 116 is part of processor 100. Thus, Georgiou et al teach adjusting of CPU working frequency) comprising:**

**at least one sensor (119s in 116-1 to 116-K), which detects the work status of a host machine (lines 26-30 of column 10 mention that thermal sensor generates a temperature signal which is a function of a temperature of the functional unit) and outputs a detected value (125);**

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**a setting unit (200), which sets triggering conditions for a frequency adjustment** (lines 27-30 of column 7 mention that 200 outputs 230. Clock control signal 270 is the output from 240 that uses 230);

**a storage unit (120), which stores the triggering conditions set by the setting unit** (lines 30-33 of column 7 mention that 230 can be stored in 120);

**a comparing unit (240), which compares the detected value output from the sensor (220 depends on 125) and the triggering conditions stored in the storage unit (240 is comparing 220 and 230);**

**and a frequency adjusting unit (430), which modifies the CPU work frequency** (lines 40-49 of column 7) **according to the comparison result of the comparing unit** (270, a signal used to select appropriate frequency, depends on 250, the output of comparator).

For claim 8, 119 is a thermal sensor or temperature sensor.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fahmida Rahman whose telephone number is 571-272-8159. The examiner can normally be reached on Monday through Friday 8:30 - 5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on 571-272-3670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fahmida Rahman  
Examiner  
Art Unit 2116

  
**LYNNE H. BROWNE**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2100**